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AUTHOR Stone, Gerald C.: And Others
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ABSTRACT

The way newspaper quality related to newspaper circulation was examined by asking journalism professionals to list the four best and the four worst daily newspapers with under 200,000 circulation in their own states. Returns were counted in only those states where two or more judges returned ballots. A total of 79 newspapers was rated superior by two or more judges, while 45 newspapers were rated inferior. Using the categorical distinction between superior and inferior newspapers and the numerical rating established by the agreement between judges, it was possible to create an interval scale for newspaper quality. Stepwise multiple regression analyses were performed to determine what effect this newspaper quality had on circulation, using three measures of circulation (city zone, trade zone, and total circulation). The overall interpretation of the data was that newspaper quality was a strong predictor of city zone and total circulation, but that household census measures were the strongest predictors. Circulation, therefore, depended more on the size of the community than on the quality of the newspaper, even when size was partially controlled. Quality accounted for at least 3.4% of the explained variance in total circulation. Since most newspapers are neither clearly superior nor clearly inferior to one another, it was decided that newspaper quality could not be used practically as a predictor of circulation. (RL)

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Newspaper Division

NEWSPAPER QUALITY: ITS RELATION TO NEWSPAPER CIRCULATION

by

Gerald C. Stone
Associate Professor
Memphis State University

Donna B. Stone
Research Associate
Memphis State University

Edgar P. Trotter
Associate Professor
California State University, Fullerton

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Newspaper Quality: Its Relation

To Newspaper Circulation

This report is another in a series of studies on daily newspaper circulation prediction that has extended from 1976 to the present.[1] It supports a practical finding that daily newspaper circulation in any given town can be predicted with 75 percent accuracy by the knowledge of a few key census and competing media figures; and it offers a theoretical implication: that some of the remaining 25 percent of variance in the circulation of a daily newspaper is attributable to the quality of the journalistic product itself.

A substantial amount of past literature and formative testing, documented in detail in the referenced material, can be summarized as follows:

1) Characteristics of the city of publication are related to some extent to newspaper circulation. For instance, a city of 250,000 population might be expected to have a daily with more circulation than would a city of 150,000 population.

2) Several census characteristics are actually stronger predictors of circulation than is population. These include household measures such as the number of homes in the city zone, those in the trade zone and the number of owner-occupied households.

3) Measures of local media competition-whether the town has local television news and the number of radio stations in the town--are a refinement to the circulation prediction formula.

4) After testing more than 20 community variables including such items as race, family income and education (all correlated with newspaper readership), it was possible to predict newspaper circulation only at about 75 percent accuracy.

5) And this hypothesis prompted the present study, that some of the remaining 25 percent of unexplained variance in daily newspaper circulation may be attributable to the quality of the editorial product itself.

Admittedly, it is theoretically impossible to prove causality in communication research, but a strong case can be made for the impact of the journalistic product on the circulation of a newspaper through the following test procedures: first to establish a measure of newspaper quality; second, to collect the same census and competition data on cities of publication of papers for which a quality measure has been made; and third, to include the quality measure in a multiple regression test series to determine if quality contributes to explained variance in newspaper circulation.

Quality Measures

Descriminating between superior and inferior journalistic products has always been a difficult task for the newspaper industry. Few, in fact, have attempted to grapple with the issue in a quantitative manner. Merrill and Lowenstein did offer some guidelines in a section of their work under "'Common' Criteria of Evaluation" which explained eight internal (those associated with the newspaper itself) and five external (those associated with image or reputation) criteria.[2]

Yet the Merrill-Lowenstein presentation is not as precisely directed at measuring newspaper performance as the attempt by Ghiglione to actually judge quality of individual newspapers in New England.[3] Ghiglione's study was a landmark effort in the field to quantify the elusive quality distinctions among papers, and can be considered an exception to Stemple's 1975 paper which found few such studies.[4]

Using the Ghiglione data, Becker, et. al., compared a host of independent variables with a measure of quality that was termed performance. This study

found staff size, starting salary, number of women on staff, median school years, religious diversity, education and experience of recent employes, staff participation in professional organizations, having done an audience survey in the last five years, average size of news hole, type of ownership and circulation all positively related to newspaper performance.[5] The study is perhaps the closest study similar to the present investigation, although Ghiglione's performance measure is a much superior rating instrument to that used here.

The present study relies on judgments based on what Merrill and Lowenstein termed external criteria: the image or reputation of the newspaper as known to those in the field. Of course a newspaper's reputation is built from consistent success in superiority based on internal criteria such as staff quality and concern with editorial policy. Such papers win state and national awards for content and appearance, and earn their reputations in the field by doing so over a number of years rather than for a single excellent story or editorial.

The approach to determining newspaper quality by using independent judges is neither unusual nor new. The work by Merrill, a classic listing of the world's outstanding newspapers, is based in part on ratings compiled from independent judges of their impressions of what a superior newspaper is.[6] Similar types of ratings occur annually on a smaller scale by state newspaper associations, national and regional newspaper organizations. foundations and journalism educational institutions, although many do use the internal criteria rather than the external.

Merrill reports a number of attempts at identifying "quality" and "prestige" newspapers of the world and the several approaches taken in such studies. Some utilize both external and internal criteria, and many employ only the external criteria of reputation.[7]

A study by Barrus in 1972 used a panel of six people "closely associated with or actively engaged in the field of non-metropolitan journalism in Utah" to select 10 superior and inferior papers in that state based on "editorial effectiveness, community leadership and achievement in news coverage, typography, and layout."[8] Some of the measures are internal criteria but most are external criteria which are determined through reputation.

Still, the present study is the only piece of research known to the authors which derived a measure of quality only by asking judges to list in rank order their state's superior and inferior journalistic products--a rating based only on the vaguest image and reputation criteria without even specifying a dimension other than superiority as a product of journalism.

Methodology

In the present investigation, a letter was mailed to handpicked judges in each of the 50 states. Without giving any specific guidelines, the judges were asked to list their first four choices of good and bad journalistic products among dailies under 200,000 circulation published in their own states. The letters, with return postcards that identified only the states in which papers were being judged, were sent to editors of large dailies (over 200,000 circulation), to directors of collegiate journalism programs, to managers of state press associations and to directors of other statewide newspaper organizations such as a wire service or newspaper consultant service. In a few instances, when only one return was received from a state, a few letters and forms were mailed to publishers of large weekly newspapers in the state in an effort to complete a judgment for that state. In all instances, then, judges were selected in a way that reduced the chance they would have a vested interest in their ratings.

Returns were counted in only those states where two or more judges returned ballots. If a paper was listed as outstanding by one judge and as inferior by another judge, it was excluded from the final tabulation. Besides being able to place a paper in either the outstanding or inferior category, it was possible to derive a ranking by summing the ratings given by each judge. Hence a paper listed as the first choice outstanding by three judges in a state would receive a superior rating of 12 while one listed last among outstanding papers by two judges in a state would have a superior rating of 2.

In part the rating is only an approximation contingent on the number of judges who returned cards in a state, but it is also a measure of their agreement. A total of 79 papers were rated superior by two or more judges in a state, and 45 papers were rated inferior for purposes of the present study.

Using the categorical distinction between superior and inferior papers and the numerical rating established by the agreement of judges, it was possible to create an interval scale for newspaper quality. Agreement ratings for inferior papers were multiplied by a -3 and agreement ratings for superior papers were multiplied by a +3 to derive the quality scale of from -36 to +36. Since more judges agreed on superior papers, the mean rating for all 124 papers in the study was +8.

Coders were given the names of papers and were instructed to gather census data as well as a few other variables not already determined to be part of the daily newspaper circulation prediction formula.

The remainder of the study was simply a series of stepwise multiple regression analyses performed to determine what effect, if any, newspaper quality had on circulation, using the three measures of circulation employed in the previous study: city zone, trade zone and total.

Results

In all, predictor variables were highly similar to those established in the previous research, with the exception that the number of local radio stations was a more valuable explanatory predictor than it had been.

Several different combinations of independent variables were tested in unison in the series of multiple regression runs. The results showed the newspaper quality measure was never the strongest predictor of any of the three dependent measures of circulation, as seen in tables 1, 2 and 3. But in two of the three tests using newspaper quality, this measure was the second strongest predictor of circulation. Newspaper quality accounted for 7% of the variance explained for city zone circulation and 5% of explained variance for total circulation.

Table 4 presents the raw Pearson correlations among all of the variables used in the regression formulas. It is evident that multicolinearity is not a significant corruptor of the measures used in predicting. In fact, the correlations show newspaper quality is an independent measure, on another dimension from the census measures and the measures of local media competition.

Considering the data do not comprise a random sample of American daily newspapers, but were selected as the best and worst newspapers in the states represented, another element was tested: size of the newspaper as represented by circulation. In gathering the data it was noted the majority of papers rated superior were larger papers while the majority of inferior papers were small. The mean total circulation of all papers in the study was 41,817. When divided into a group of large and small circulation papers at the median, the mean total circulation for small papers was 11,032 while the mean total circulation for large papers was 72,710. This huge difference in average total circulation called for a repetition of the multiple regression analyses separately on the two size groups.

Results of these analyses are presented in Table 5. The figures presented support a number of interrelated observations, but even when split into small circulation and large circulation subgroups, the regression analyses are similar to those produced on the full range of circulations represented in the study--although there are exceptions: 1) Using the whole sample in tables 1 through 3, the total explained variance (R-Square) is always higher when the newspaper quality measure is part of the predictor variable group than when it is not, and explained variance is always near 75 percent; 2) In both the split group series and the series based on the entire sample, the newspaper quality measure is a strong predictor of city zone and total circulation but is a weak predictor of trade zone circulation; 3) Almost all of the variance in trade zone circulation can be predicted for trade zone circulation in the small circulation split run; 4) Less of the variance in city zone circulation is predicted in the small circulation split run and less of the trade zone circulation is predicted in the large circulation split run; 5) Newspaper quality is a weak predictor in the large circulation split run.

One final test was performed. On the sound theory that none of the circulation measures can ever be divorced totally from community size, a circulation penetration measure was derived by dividing city zone circulation by city zone households (penetration in the city zone) and by dividing city zone plus trade zone households into total circulation (total newspaper penetration in the market).

The penetration estimates were used as dependent variables in the repeated multiple regression analyses, and in both, newspaper quality was a stronger predictor of penetration than were any of the remaining variables not used to construct the penetration variable itself, (table not shown). However, the predictive ability of the remaining independent variables was not high:

less than 25% of the variance in penetration was explained by the remaining variables including newspaper quality. But newspaper quality did account for about 12% of the variance in both penetration measures.

Discussion

The single prevailing finding of the study is that newspaper quality is related to newspaper circulation. It is a strong predictor of city zone circulation and total circulation but it adds little in explaining variance of trade zone circulation. Quality, however, is rarely the single most powerful predictor of any of the circulation measures, and that finding is complicated by the strength of those variables which supersede it in the regression analysis, especially city zone households, which is correlated with city zone circulation at the +.88 level and with total circulation at the +.83 level. Such correlation leave little room for increasing explained variance with additional variables.

Even testing the dependent variables in a regression analysis that omitted city zone households (not presented), produced results similar to those presented. Owner occupied households or trade zone households substituted for the missing city zone households measure in these tests and newspaper quality added only a little more to explained variance than it did in the analyses shown.

The over all interpretation of the data on newspaper quality, then, is that it is a strong predictor of city zone and total circulation, but that the household census measures are strongest. Circulation, therefore, depends more on the size of the community than on the quality of the newspaper published in that community, even when size is partially controlled. But newspaper quality still is a factor that can raise or lower circulation in a significant number of newspaper publishing sites. Quality can be said to account for at least 3.4 percent of the explained variance in total circulation of the sample studied.

The finding is theoretically satisfying. It implies an improvement in the journalistic product may result in more newspapers sold. Unfortunately, from a practical standpoint, newspaper quality cannot be used to help predict circulation because it is virtually impossible to rate all newspapers by the methods employed in this study: most papers are neither clearly superior nor clearly inferior journalistic products.

Other Observations

Since the study included some independent variables which were not central to the circulation prediction formulas, the relationship between them and the newspaper quality measure have not been discussed. Table 6 offers individual Pearson correlations and associated r^2 calculation between newspaper quality and the other variables in this study.

There are strong positive relationships between newspaper quality and most of the other variables. The strongest relationship is between quality and total circulation of the newspaper. But there are three measures which are unrelated to newspaper quality: the price per copy, whether the paper is a morning or evening daily and whether the paper belongs to a newspaper group. In all, the interpretation is that newspaper quality has a relation to the size of a community, its mix of mass media and the three measures of newspaper circulation, but is not associated with price, time of publication or group ownership.

Returning to the Becker, et. al., study which deals with many of the same measurements used here, we find great similarity between the correlates of newspaper performance in that study and the correlates of newspaper quality in this study. The inconsistencies include newspaper competition, community size and type of ownership. Becker found no relation between either of the first two variables and newspaper performance, but did find performance related to type of ownership.

It is difficult to assess these inconsistencies. We might note that none of the measures are exactly the same as those employed here, and that performance and quality measures also were derived differently. Still, these are the only inconsistencies among the many observations both studies have in common which produced the same general results. We are inclined to believe the two measures of performance-quality are tapping the same broad precepts and that the three differences noted are attributable primarily to the differences in the independent variables rather than a wide disparity in the performance-quality variables.

Footnotes

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2. John C. Merrill and Ralph L. Lowenstein, Media Messages and Men, New Perspectives in Communication, (David McKay Co., Inc.; New York, 1971), pp. 162-6.

3. Loren Ghiglione, ed., Evaluating the Press: The New England Daily Newspaper Survey (Southbridge, Mass.: Published by the editor, 1973).

4. Guido H. Stempel III, "Media Evaluation: The State of the Art," presented to the Association for Education in Journalism, Ottawa, 1975.

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6. John C. Merrill, The Elite Press: Great Newspapers of the World, (Pittman Publishing Corp.: New York, 1968), pp. 11-43.

7. See references as follows: Ithiel de Sola Pool, The "Prestige Papers": A Survey of Their Editorials, (Palo Alto, Stanford University Press, 1952), p. 1; John Tebbel, "Rating the American Newspaper," Saturday Review (May 13, 1961), pp. 60-2; Merrill, "U.S. Panel Names World's Ten 'Quality' Dailies," Journalism Quarterly, (Autumn, 1964), pp. 568-72; Heinz-Dietrich Fischer, Die grossen Zeitungen, (Munich, Deutscher Taschenbuch Verlag, 1966), pp. 17-8, 293-5; Merrill, "International 'Elite Press' Survey, 1965," Research Council, University of Missouri, Columbia.

8. George S. Barrus, "Difference Between Superior and Low-Rated Utah Paper," Journalism Quarterly, (Autumn, 1972), pp. 591-2.

TABLE 1

Multiple regression summary table with city zone circulation as dependent variable, with and without newspaper quality measure.

Without Quality Measure

	Multiple-R	R-Square	RSQ Change
City zone households	.875	.766	.766
Trade zone households	.878	.771	.005
Number local radio stations	.881	.777	.006
Has local TV station	.882	.777	.001

With Quality Measure

	Multiple-R	R-Square	RSQ Change
City zone households	.875	.766	.766
Newspaper quality measure	.879	.773	.007
Trade zone households	.883	.780	.007
Number local radio stations	.885	.784	.004
Has local TV station	.886	.784	.001

TABLE 2

Multiple regression summary table with trade zone circulation as dependent variable, with and without newspaper quality measure.

Without Quality Measure

	Multiple-R	R-Square	RSQ Change
Number of local radio stations	.800	.640	.640
Price per copy	.818	.670	.030
Owner occupied households	.846	.716	.046
Has local TV station	.852	.726	.010
Trade zone households	.856	.733	.008

With Quality Measure

	Multiple-R	R-Square	RSQ Change
Number local radio stations	.800	.640	.640
Price per copy	.818	.670	.030
Owner occupied households	.846	.716	.046
Has local TV station	.852	.726	.010
Trade zone households	.856	.733	.008
Newspaper quality measure	.858	.735	.002

TABLE 3

Multiple regression summary table with total circulation as dependent variable, with and without newspaper quality measure.

	Without Quality Measure		
	Multiple-R	R-Square	RSQ Change
Owner occupied households	.780	.638	.638
Trade zone households	.813	.660	.022
Number local radio stations	.821	.674	.014
Has local TV station	.882	.676	.002

	With Quality Measure		
	Multiple-R	R-Square	RSQ Change
City zone households	.832	.693	.693
Newspaper quality measure	.853	.727	.034
Owner occupied households	.870	.756	.030
Number local radio stations	.873	.762	.006

TABLE 4

Pearson correlation coefficients among variables in multiple regression formulas.

	City Zone Households	Trade Zone Households	Number Local Radio Stations	Has Local TV Station	Price Per Copy	City Zone Circulation	Trade Zone Circulation	Total Circulation
City zone households	--	.69	.45	.24	.02	.88	.40	.83
Trade zone households		--	.41	.27	.12	.55	.47	.60
Number local radio stations			--	.73	.57	.45	.80	.50
Has local TV station				--	.55	.24	.67	.29
Price per copy					--	-.06	.61	-.06
Newspaper quality measure	.38	.35	.25	.28	-.10	.36	.30	.45

TABLE 5

Multiple regression analysis on group of small circulation and large circulation papers with city zone circulation, trade zone circulation and total circulation as dependent variables.

ANALYSIS SERIES OF SMALL CIRCULATION PAPERS

	Multiple-R	R-Square	RSQ Change
With City Zone Circulation			
Newspaper quality measure	.551	.304	.304
City zone households	.662	.439	.134
Trade zone households	.670	.460	.025
Number local radio stations	.711	.505	.045
With Trade Zone Circulation			
Number local radio stations	.955	.913	.913
Price per copy	.964	.929	.017
Has local TV station	.965	.931	.002
With Total Circulation			
Newspaper quality measure	.589	.347	.347
Trade zone households	.674	.454	.107
Number local radio stations	.708	.502	.048
City zone households	.752	.565	.064
Owner occupied households	.759	.575	.010

ANALYSIS SERIES OF LARGE CIRCULATION PAPERS

	Multiple-R	R-Square	RSQ Change
With City Zone Circulation			
City zone households	.808	.652	.652
Trade zone households	.821	.674	.021
Number local radio stations	.826	.682	.008
Newspaper quality measure	.827	.684	.002
With Trade Zone Circulation			
Number local radio stations	.537	.289	.289
Owner occupied households	.640	.410	.121
Newspaper quality measure	.665	.443	.033
Price per copy	.680	.463	.020
City zone households	.693	.480	.017
Trade zone households	.710	.505	.025
Has local TV station	.718	.515	.011
With Total Circulation			
City zone households	.742	.550	.550
Number local radio stations	.784	.614	.064
Owner occupied households	.813	.661	.047
Has local TV station	.816	.667	.005
Newspaper quality measure	.817	.667	.001

TABLE 6

Pearson correlations and r^2 calculations between newspaper quality measure and other variables in the study.

	Newspaper Quality Measure	
	Pearson Correlation	Explained Variance (r^2)
Community Size Measures		
City zone households	.325*	10.6%
Trade zone households	.278	7.7
Owner occupied households	.303	9.2
Other Community Description		
Family spendable income	.288	8.3
Media Competition		
Number newspapers in city	.372	13.8
Number local radio stations	.340	11.6
Has local TV station	.282	8.0
Newspaper Descriptions		
City zone circulation	.363	13.2
Trade zone circulation	.289	8.4
Total circulation	.445	19.8
Price per copy	-.113	.1
Morning vs. evening publication	-.067	.04
Belongs to newspaper group	.106	.1

*Pearson correlations below .15 are not significant; those between .15 and .20 are significant at the .05 level; .21 to .27 are significant at the .01 level and those above .27 are significant at the .001 level.